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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,420	05/05/2006	Kouji Kametaka	6340-000072/US/NP	1683
27572 7590 02/19/2010 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER WAITS, ALAN B	
			ART UNIT 3656	PAPER NUMBER
			MAIL DATE 02/19/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/578,420	Applicant(s) KAMETAKA ET AL.	
	Examiner ALAN B. WAITS	Art Unit 3656	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-13 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 8 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7, 8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki et al. USP 6280096.

Miyazaki discloses a similar device comprising:

#### **Re clm 7 and 13**

- An inner member (2, fig 1) including a wheel hub having an integrally formed wheel mounting flang (6, fig 1) at one end
- A cylindrical portion (8, fig 1) axially extending from the wheel mounting flange
- An inner ring (3, fig 1) fitted on the cylindrical portion
- An outer member (4, fig 1) arranged around the inner member
- Double row rolling elements (5, fig 1) freely rollably contained between the inner and outer member
- The inner ring being secured in an axial direction relative to the wheel hub by a caulked portion (19, fig 1)
- A chamfered outer circumferential surface (26, fig 1) of a back side of the inner ring {is recut}

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- {The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation}

**Re clm 8**

- The wheel hub is formed with an inner raceway surface (7, fig 1) on its outer circumferential surface and said wheel hub outer circumferential region from a base of the wheel mounting flange to the cylindrical portion through the inner raceway surface is to have a surface hardness of 54-64 HRC (col 7, lines 31-32)
- Said caulked portion remains as a non-quenched portion having a surface hardness less than 24 HRC (col 8, lines 27-29)

Regarding the "{ }" above, the examiner notes that the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

3. Claims 7 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sera US 2002/0051597.

Sera discloses a similar device comprising:

**Re clm 7 and 13**

- An inner member (21, fig 1) including a wheel hub having an integrally formed wheel mounting flange (26, fig 1) at one end

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- A cylindrical portion (d, fig 1) axially extending from the wheel mounting flange
- An inner ring (22, fig 1) fitted on the cylindrical portion
- An outer member (24, fig 1) arranged around the inner member
- Double row rolling elements (23, fig 1) freely rollably contained between the inner and outer member
- The inner ring being secured in an axial direction relative to the wheel hub by a caulked portion (35, fig 1)
- A chamfered outer circumferential surface (26, fig 1) of a back side of the inner ring {is recut} ([0017])
- {The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation}

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. USP 6280096 and further in view of Nonaka USP 6840722.

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Miyazaki discloses all the claimed subject matter as described above.

Miyazaki does not specifically disclose:

**Re clm 7**

- The chamfered outer circumferential surface of a back side of the inner ring is recut

**Re clm 13**

- The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation

Nonaka teaches machining an element where a surface is formed as a cut surface eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation (col 13, ln 21-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Miyazaki and provide:

**Re clm 7**

- The chamfered outer circumferential surface of a back side of the inner ring is recut

**Re clm 13**

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- The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation

for the purpose of preventing defects, such as burrs or cracks, occurring when the cylindrical portion of the hub ring is crimped.

6. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sera US 2002/0051597 and further in view of Nonaka USP 6840722.

Sera discloses all the claimed subject matter as described above.

Sera does not specifically disclose:

**Re clm 7**

- The chamfered outer circumferential surface of a back side of the inner ring is recut

**Re clm 13**

- The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation

Nonaka teaches machining an element where a surface is formed as a cut surface eliminating burrs gouges created on the chamfered surface during previous

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working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation (col 13, ln 21-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Miyazaki and provide:

**Re clm 7**

- The chamfered outer circumferential surface of a back side of the inner ring is recut

**Re clm 13**

- The chamfered outer circumferential surface is formed as a cut surface machined after heat treatment of the inner ring eliminating burrs gouges created on the chamfered surface during previous working steps to uniformly distribute the stress concentration that would be caused by a hoop stress in the inner ring during the caulking operation

for the purpose of preventing defects, such as burrs or cracks, occurring when the cylindrical portion of the hub ring is crimped (Sera, [0017]).

***Response to Arguments***

7. Applicant's arguments filed 11/7/2009 have been fully considered but they are not persuasive. Applicant argues that the amendment "is recut" is patentably distinct over the prior art. The examiner disagrees and still believes the limitation to be a product-by-process limitation. The same applies to the newly added claim 13.



Although the examiner still maintains the position that the new limitations are merely product-by-process limitations, the examiner has also cited new art and rejections that meet these limitations.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN B. WAITS whose telephone number is (571)270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan B Waits/  
Examiner, Art Unit 3656

/Richard WL Ridley/  
Supervisory Patent Examiner, Art Unit 3656